

What is claimed is:

- 1 1. An IP-telephony interface circuit arrangement, comprising:
 - 2 a plurality of audio-endpoint devices adapted to process audio information
 - 3 coupled to respective audio channels; and
 - 4 a data gateway circuit including multiple circuit paths coupled to the respective
 - 5 audio channels, the multiple circuit paths adapted to process the audio information, and
 - 6 including an interface circuit adapted to convert the audio information between a first
 - 7 audio-channel format and a second IP-data format; the data gateway circuit being
 - 8 configured and arranged with a first interface for communicatively coupling the audio
 - 9 information in the second IP-data format to an IP communications link and with a
 - 10 second interface for communicatively coupling the audio information in the first audio-
 - 11 channel format to the plurality of audio-endpoint devices.
- 1 2. The IP-telephony interface circuit arrangement of claim 1, wherein the data
- 2 gateway circuit is configured and arranged to expand service to additional audio-
- 3 endpoint devices.
- 1 3. The IP-telephony interface circuit arrangement of claim 2, wherein the data
- 2 gateway circuit is configured and arranged to expand service to additional audio-
- 3 endpoint devices in multiples of 2^N , where N is an integer.

4 4. The IP-telephony interface circuit arrangement of claim 1, wherein the data
5 gateway circuit further includes a pair of dual SLICs for connecting up to four audio-
6 endpoint devices.

1 5. A data gateway adapted to convert between IP and analog telephony data, the
2 gateway comprising:

3 an IP telephony processor adapted to compress and format audio data for
4 transmission over an IP network;
5 an IP communications port adapted to connect to an IP communications link;
6 a POTS communications port adapted to connect to a POTS link.

1 6. The data gateway of claim 5, further comprising a PCB having Codec
2 integration software.

1 7. The data gateway of claim 5, further comprising a unit level assembly including
2 the PCB in a housing.

1 8. The data gateway of claim 6, wherein the Codec integration software includes
2 libraries supplied as object code.

1 9. The data gateway of claim 5, further adapted to evaluate a communications
2 system, the gateway further comprising hardware and software tools to effect the
3 evaluation.

1 10. The data gateway of claim 5, further comprising a developer's kit having
2 communication links, software, hardware, and a programming interlink, the gateway
3 being adapted to couple at least one conventional telephony device to an IP telephony
4 network.

1 11. The data gateway of claim 5, wherein the gateway is adapted to use
2 communications standards for VoIP.

1 12. The data gateway of claim 5, wherein the gateway is adapted to interface with
2 Microsoft NetMeeting software.

1 13. The data gateway of claim 5, wherein the IP telephony processor is adapted to
2 use DSP and command/control processing for compressing and formatting the audio
3 data.

1 14. The data gateway of claim 5, wherein the IP communications port includes an
2 Ethernet MAC/PHY chip adapted to provide access to 10BaseT Ethernet and manage
3 flow control.

1 15. The data gateway of claim 5, further comprising a FLASH data memory for
2 remotely programming the data gateway.

1 16. The data gateway of claim 5, further comprising a data memory that includes at
2 least one of: FLASH memory, SRAM memory, and DRAM memory.

1 17. The data gateway of claim 5, wherein the IP telephony processor is remotely
2 programmable.

1 18. The data gateway of claim 5, further adapted to control a plurality of telephony
2 calls simultaneously using a ring management process.

1 19. The data gateway of claim 5, wherein the IP communications link includes a
2 broadband link.

1 20. An IP telephony communications system comprising:
2 a data gateway adapted to convert between IP telephony data and POTS
3 telephony data;
4 an IP communications link coupled to the data gateway and to an IP
5 communications network; and
6 a POTS link coupled to the data gateway and to a POTS communications
7 network.